

Abstract of the Disclosure

A control system for a low cost, light duty combustion engine, where the control system generally utilizes engine speed ~~or engine speed~~ and/or temperature input signals and independent operating sequences to determine a desired ignition timing and air-to-fuel ratio for a combustible mixture. There are several independent operating sequences, each one of which is designed to optimally control the engine under certain conditions. These operating sequences include a Cranking sequence that commences after the engine is initially turned on, a Warm Up sequence which follows the Cranking sequence, a Normal Mode sequence ~~which is the operational mode in control under~~ for typical operating conditions, an Acceleration sequence ~~which is called upon if the Normal Mode ever detects an~~ for certain increases in engine speed ~~exceeding a predetermined rate~~, a Come Down sequence ~~which is initiated if the Normal Mode senses~~ for when a sufficient engine speed is followed by a certain decrease in speed, and a Recovery Bump sequence ~~which the Normal Mode calls up if the~~ for when the engine speed dips below a predetermined level. ~~By utilizing these operational sequences and an engine speed input signal, the control system of the present invention improves the engine performance and emissions of a low cost, light duty engine across a wide array of conditions.~~